

By the 17th this disturbance had decreased in intensity, but on the 18th had increased again, as shown by the following storm logs:

British S. S. *Lapland*:

Gale began on the 17th, wind NNE. Lowest barometer 29.35 inches at midnight on the 17th, wind NNW., 9, in latitude 43° 47' N., longitude 37° 03' W. End on the 18th, wind WSW. Highest force of wind 10; shifts N.-NNW.-NW.

American S. S. *Sarcozie*:

Gale began on the 18th, wind SW. Lowest barometer 29.72 inches at noon on the 18th, wind SW., in latitude 47° 31' N., longitude 25° 02' W. End on the 19th. Highest force of wind 10, SW.; steady from SW.

From the 19th to the 27th, with the exceptions noted below, a period of fine weather existed over the entire ocean, with comparatively high pressure and slight gradients, although from the 19th to 21st fog was reported off both the American and European coasts.

On the 21st the American S. S. *Sabine Sun* encountered a most peculiar squall of short duration in the vicinity of Nassau, as shown by following report:

At 10 p. m. on the 21st passed through a fresh southerly gale, force 8, lasting 45 minutes. Wind steady from S., barometer at 30.05 inches. Position, latitude 26° 50' N., longitude 79° 21' W.

While a number of other vessels were near by on the 21st and 22d, this was the only report received denoting unusual conditions.

At Greenwich mean noon on the 27th high pressure and moderate winds, with fog, prevailed off the coast of Europe. In spite of that fact the American S. S. *America* encountered a severe easterly gale early in the day, as shown by following storm log:

Gale began on the 27th, wind ESE. Lowest barometer 30.36 inches at 7 a. m. on the 27th, wind ESE., 3, in latitude 48° 02' N., longitude 16° 26' W. End on the 27th, wind ESE. Highest force of wind 11; steady from ESE.

Charts X and XI show the conditions on the 28th and 29th, respectively. On the former date a strong NE. gale prevailed off the coast of Hatteras, and on the latter there was a disturbance of limited extent in mid-ocean. Storm logs follow.

American S. S. *El Mundo*:

On the 28th fresh NE. gales and heavy sea. Overcast and squally. Lowest barometer 29.81 inches. Greenwich mean noon position, latitude 31° 13' N., longitude 78° 55' W.

Italian S. S. *Mincio*:

Gale began on the 28th, wind NE. Lowest barometer 30.08 inches at 1.15 p. m. on the 28th, in latitude 36° 09' N., longitude 73° 18' W. End 7 p. m. on the 19th. Highest force of wind 10, N.; shifts not given.

Dutch S. S. *Noordam*:

Gale began on the 29th, wind SSW., 7. Lowest barometer 29.61 inches at 2 p. m. on the 29th, wind SSW., 8, in latitude 44° 27' N., longitude 38° 04' W. End at 10 p. m. on the 29th, wind NW., 6. Highest force of wind 8, SSW. Shifts SSW.-NNW.

At Greenwich mean noon on the 29th a low covered the greater part of the Gulf of Mexico, although at the time only moderate winds were reported from that region. Early in the morning, however, the American S. S. *Pennsylvania* encountered a severe squall from the north, as shown by following report.

Gale began on the 29th, wind N. Lowest barometer 29.85 inches at 1:30 a. m. on the 29th, wind NW., in latitude 23° N., longitude 94° 30' W. End on the 29th, wind N. Highest force of wind 9, NNW. This gale came on suddenly and lasted one hour.

NORTH PACIFIC OCEAN.

By F. G. TINGLEY.

The month opened with an extensive area of low pressure occupying the Aleutian area and one of high pressure lying between the Hawaiian Islands and the American mainland. High pressure also covered Japan and Mongolia. Moderate northerly gales were prevailing on the western portion of the northern steamer route and southerly gales along the eastern portion. By the evening of the 2d the Aleutian depression had moved to the Gulf of Alaska, where it slowly diminished in energy, finally passing inland on the 7th. On the 9th a second depression appeared over the Aleutians and on the 11th a third and more vigorous one. Both continued to move eastward as far as the Gulf of Alaska.

Following the last-named depression, pressure rose strongly over mid-ocean, the barometer at Midway Island recording 30.30 inches on the evening of the 15th and at Dutch Harbor 30.48 inches on the morning of the 16th. This change was of brief duration, however, as pressure was falling over the western Aleutians by the evening of the latter date in connection with the advance of a depression toward Bering Sea. On the 17th high pressure prevailed over both the eastern and western portions of the ocean. On the 19th the high-pressure areas had joined in mid-ocean and the combined areas extended from the American coast to the Kuril Islands. During the next 10 days high pressure was fairly well maintained in middle latitudes, while a series of depressions of moderate size and energy moved eastward over Bering Sea and the Gulf of Alaska. At the close of the month pressure was generally low over the western portion of the ocean, with depressions centered to the south of Japan and over the Aleutians and fresh to strong northerly gales prevailing along the northern steamer routes west of the 160th meridian, west longitude. Pressure remained moderately high over eastern portions of the ocean.

During the period from about the 4th to 12th a small typhoon prevailed in the region lying east of the Philippines and Formosa. Observations from land stations failed to give any positive indication of the existence of this storm, but on the 7th and 8th the British S. S. *Anglo-Mexican* was heavily involved near 21° 30' N., 133° E. This vessel, under command of Capt. R. P. Davis, Observer W. C. Morris, was proceeding toward Hongkong from Panama. These officers have furnished the following account of their experience in this typhoon:

May 3. Position at G. M. N., 19° 50' N., 154° 21' E., wind S., light, very fine, and clear, but with infrequent heavy showers, sea smooth, bar. 29.89.

May 4. G. M. N., 21° N., 150° 26' E., similar weather, very heavy rain showers, sea smooth, bar. 29.85.

May 5. 21° 19' N., 145° 45' E., wind S., 1-2, very fine and clear, infrequent showers, sea slight, S., bar. 29.87.

May 6. 21° 9' N., 141° 28' E., wind S., 1-2, sky overcast and dull looking through night but clear through daytime, with few Fr. Nb. clouds, sea slight, S., bar. 29.86.

May 7. 21° 18' N., 137° 10' E., wind SE., 2, overcast with passing showers, conspicuous southerly swell, heavy lightning. At noon sky became overcast and rain started to fall in torrents, with vivid lightning. 4 p. m. Wind increasing and sea rising with increasing squalls. 6 p. m. Barometer falling and weather showing all signs of approaching storm. 10 p. m. Barometer down to 29.55, with high sea, terrific squalls of wind and rain. Midnight. Barometer falling fast, wind steady in direction and increasing in force, with incessant terrific squalls, accompanied by heavy rain, sea mountainous.

May 8. 21° 25' N., 132° 27' E. 12:10 a. m. Vessel hove to on star-board tack. 2 a. m. Barometer fallen to 29.37 and then steady, wind of hurricane force and mountainous sea. 3 a. m. Wind shifting from ESE. to SE. and at 4 a. m. to SSE. At 6 a. m. glass showed signs of rising. 8 a. m. Barometer standing at 29.41, weather beginning to show signs of abating. Longer intervals between squalls evident, with slight breaks in clouds. Noon. Weather improving rapidly. The lowest barometer observed was 29.37 inches. This occurred at 2:05 a. m. on the 8th in 21° 30' N., 133° E. Shifts of wind, ESE., SE., SSE., S., SSW.

May 9. 21° 12' N., 128° 31' E., wind W., 1, weather fine and clear, smooth sea, bar. 29.86.

The barometer on board the *Anglo-Mexican* was compared on arrival at Hongkong, and the correction, +0.27 inch, has been applied to the readings given.

It seems probable that the typhoon passed to the south of Guam on the 3d on a WNW. course, recurved near 21° N., 132° E., during the 7th and 8th, and passed to the west of the Bonin Islands on the 10th. Reports at hand do not show whether it then dissipated or continued on into higher latitudes.

The most extensive disturbance of the month was probably that in which several reporting vessels were involved on the 10th-13th (American time) near the 180th meridian. This appears to have been the depression that occupied the region of the Kuriles on the morning of the 10th (Asiatic time). The following reports indicate the severity of this storm.

Norwegian S. S. *Luise Nielsen*, Capt. J. U. Velde, Observer N. Jagen, Tsingtau for Astoria.

Gale began on 11th with wind at ESE.; lowest barometer, 29.38 inches, occurred at midnight of the 11th-12th in 49° 56' N., 175° 48' E., with wind E., force 11 (highest); gale ended on 13th, wind NNE.

British S. S. *Monteagle*, Capt. A. V. R. Lovegrove, Observer D. Smith, Yokohama for Vancouver.

Gale began on 11th in 48° 12' N., 174° 45' E., with wind SE.; lowest barometer, 29.28 inches, occurred at 4 a. m. on the 12th in 48° 43' N 178° 20' E., wind E.; gale ended at noon of 13th, wind NNE., shifts SE. to NNE., highest force, 8.

British S. S. *Bessie Dollar*, Capt. F. Mehan, Observer D. Nicoll, second officer, Yokohama for San Pedro.

Gale began on 10th, wind ESE.; lowest barometer, 29.16 inches, occurred at noon of same day in 45° 15' N., 176° E., wind SSE., 7; gale ended on 11th, wind SW.; shifts, SSE., SW., WSW.; highest force, 8.

Gale began on 12th, wind NNE.; lowest barometer, 29.37 inches, occurred at 8 p. m. same day in 45° 52' N., 173° 48' W., wind NNE., 8; gale ended on 13th, wind N., highest force, 8.

At Dutch Harbor pressure was below normal on the first three days of the month and on and after the 23d, the average departure for the combined periods being -0.34 inch. The departure for the remaining portion of the month was +0.12 inch. The lowest pressure, 29.00 inches, occurred on the 1st; the highest, 30.48 inches, on the 16th. At Honolulu pressure was above normal during the first decade by approximately 0.03 inch and fluctuated above and below by small amounts thereafter. At Midway Island conditions were not marked. For the month as a whole pressure was above normal by slightly less than 0.02 inch. The highest pressure, 30.30 inches, occurred on the 15th and 16th; the lowest, 29.94 inches, on the 20th.

(The Manila typhoon of May 23, 1922, will be described in the June issue of the REVIEW.)

NOTES ON WEATHER IN OTHER PARTS OF THE WORLD.

Newfoundland.—ST. JOHNS, May 4.—This province is covered by a blanket of snow several inches deep, following a blizzard which swept over the island yesterday.

In some places the snow blocked the railway and the sealing fleet was unable to continue operations.—*Washington News*, May 5, 1922.

England.—LONDON, May 24.—The phenomenal heat wave began Friday, and is expected to continue for several days to come.

By 3 o'clock in the afternoon the thermometer registered 85 in the shade and 126 in the sun. Several deaths from heat prostration have been reported daily.—*New York World*, May 25, 1922.

In the recent hot spell the sheltered thermometer at Greenwich registered 90.2° on May 22 and 90.6° on May 24. The previous records for May since 1841 show only eight days with a temperature so high as 85, the maxima being 87.5 on May 26, 1880, followed by 87.0 on May 18, 1868, and 86.5 on May 25, 1920, while a temperature of 90 has occurred only seven times during June since 1841 and only once since 1897.—*Nature (London)*, June 3, 1922, p. 723.

France.—PARIS, May 5.—Never, as far back as the longest memory of the oldest inhabitant and official records go, has Paris seen so much rain as it has since April 1. Not a day passes without at least one shower, and the majority of the afternoons are marked by a continuous downpour, spoiling the pleasure of tourists. The Seine is rising to an alarming height, and the more timid residents of Auteuil are fearing a repetition of the floods of 1910, which resulted in damage estimated at millions of francs.—*New York Herald*, May 6, 1922.

MAY 24.—PARIS to-day experienced the hottest May day in 116 years, the thermometer hitting 94.1° F. in the shade at 3.45 o'clock this afternoon. Many capitals have been struck by the heat wave that began sweeping Europe five days ago.

The heat here generated a peculiarly stifling haze.—*New York World*, May 25, 1922.

Switzerland.—GENEVA, May 24.—The heat wave in the Alps region has broken a 90-year record for the month of May, the thermometer at several points to-day registering 90° F. Snow and glaciers are melting rapidly, and the Rhine and Rhone Rivers are rising.—*New York World*, May 25, 1922.

Morocco.—MADRID, May 21.—A severe windstorm swept Cueta and Tatan, Spanish Morocco, yesterday, doing considerable damage to the positions of the troops there, says a War Office statement.—*New York Times*, May 22, 1922.

Egypt.—A message from Cairo dated May 3 stated that the low level of the Nile was causing some anxiety, notably with regard to the cotton crop. The supply from the White Nile, which provides the bulk of the summer water, has disappointed expectations, being much lower than in any year hitherto recorded. The Blue Nile was also very low.¹

Australia.—Further heavy rains, which were much needed, fell in South Australia early in the month.¹

Brazil.—The excessive rains in the north were harmful to the sugar-cane plantations, but the weather was favorable to the coffee crop.¹

¹ *Meteorological Magazine*, June, 1922, p. 148.